

REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

Status of the Claims

Claims 1-12 are currently pending in the present application. The Office Action is non-final. Claims 1 and 3 have been amended without prejudice or disclaimer of the subject matter contained therein. Claims 10-12 are new. No new matter has been added by way of these amended and new claims. For instance, support for the amendment to claim 1 can be found on page 4, lines 2-8, and page 22, lines 13-16 of the present specification. Claim 3 is amended to only depend from claim 1. For claim 10, support can be found on page 18, line 1 to page 19, line 3, and Table 2 of the present specification. Claim 11 is a duplicate of claim 3 that depends from claim 2. Finally, claim 12 is a combination of claims 1-7. Thus, no new matter has been added.

Based upon the above considerations, entry of the present Amendment is respectfully requested.

Issues Under 35 U.S.C. § 103(a), Obviousness

The rejections cited by the Examiner under 35 U.S.C. § 103(a) are as follows.

Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Obayashi *et al.*, U.S. Patent No. 4,863,989 (hereinafter "Obayashi") in view of Hosokawa *et al.*, U.S. Patent Application Publication No. 2001/0053826 (hereinafter "Hosokawa").

The Examiner asserts that Obayashi discloses a water-absorbent resin composition

comprising a water-absorbent resin, an oxygen-containing reducing inorganic salt, and an organic antioxidant.

Although the Examiner admits that Obayashi does not disclose an aminocarboxylic acid-based metal chelating agent, the Examiner asserts that Hosokawa teaches aminocarboxylic acid compounds, where the chelating agent is able to chelate with zinc salts in a water-absorbent composition (See the Office Action dated September 4, 2008 at pages 3-4; hereinafter "Office Action").

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Obayashi, in view of Hosokawa as applied to claim 1, and further in view of Wada *et al.*, U.S. Patent No. 5,760,080 (hereinafter "Wada") as evidenced by Torii *et al.*, U.S. Patent Application Publication No. 2003/0069359 (hereinafter "Torii").

The Examiner asserts that as modified, Obayashi discloses a water-absorbent resin composition as shown above in claim 1 and further discloses an absorbent. Although Obayashi does not disclose a hydrophilic fiber, the Examiner also asserts that Wada teaches hydrophilic fibers for an absorbent. Since the Examiner asserts that Obayashi and Wada are analogous art, it would have been obvious to use hydrophilic fibers of Wada in a composition of modified Obayashi with the motivation disclosed in Torii.

Concerning claim 9, although Obayashi does not disclose an absorbent article interposed between a liquid-permeable sheet and a liquid-impermeable sheet, the Examiner asserts that Wada teaches an absorbent article interposed between a liquid-permeable sheet and a liquid-impermeable sheet. Therefore, the Examiner concludes that it would have been obvious to interpose between a liquid-permeable sheet and a liquid-impermeable sheet of Wada in an article

of Obayashi.

Applicants respectfully traverse both rejections.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), has provided the controlling framework for an obviousness analysis. A proper analysis under § 103(a) requires consideration of the four *Graham* factors of: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467.

M.P.E.P. § 2143 sets forth the guidelines in determining obviousness. But before the Examiner can utilize these guidelines, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*; *supra*. To reject a claim based on the above mentioned guidelines, the Examiner must resolve the *Graham* factual inquiries. MPEP §2143.

If the Examiner resolves the *Graham* factual inquiries, then the Examiner has to provide some rationale for determining obviousness, wherein M.P.E.P. § 2143 sets forth the rationales that were established in *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Applicants respectfully submit that the Examiner has not appropriately resolved the *Graham* factors, including the factors of determining the scope and content of the prior art and ascertaining the differences between the prior art and the claims that are at issue. Based on the following, Applicants maintain that the above mentioned *Graham* factors actually reside in Applicants' favor. Additionally, Applicants submit that since the Examiner did not resolve the *Graham* factors, the rationale the Examiner provides for combining the cited references is improper.

Applicants respectfully submit that the presently claimed invention is distinct from and unobvious over Obayashi combined with Hosokawa, and further combined with Wada and Torii.

Distinctions between the Present Invention and the Cited References

The Examiner asserts that Obayashi describes a water-absorbent resin composition containing an oxygen-containing reducing inorganic salt, an organic antioxidant, and a water-absorbent resin, and that Hosokawa discloses that an aminocarboxylic acid compound (chelating agent) is added to a water-absorbent resin composition, for the purpose of improving stability with the passage of time; therefore, the Examiner concludes that a skilled artisan would be able to easily arrive at applying an additive described in Hosokawa for the purpose of further improving stability in the water-absorbent resin composition described in Obayashi.

Applicants describe conventional absorbent composition in their specification, which includes that of Obayashi. A water-absorbent composition containing a water-absorbent resin, an oxygen-containing reducing inorganic salt and an organic antioxidant has been known. However, one significant disadvantage with such a conventional composition is that it cannot exhibit sufficient discoloration resistance (see page 2, line 24 to page 3, line 5 of the present specification). Particularly, the water-absorbent resins used in an absorbent article has to avoid discoloration even when the absorbent articles are stored for a long period of time, and/or under severe high-temperature and high humidity conditions (see page 2, lines 20-23 of the present specification).

By contrast, a major feature of the water-absorbent resin composition of the present invention resides in that discoloration resistance is remarkably improved by incorporating the

metal chelating agent. One of ordinary skill in the art would not expect such improved discoloration resistance from the instantly claimed water-absorbent resin composition containing an aminocarboxylic acid-based metal chelating agent combined with the oxygen-containing reducing inorganic salt and the organic antioxidant (which have conventionally been known to be effective in the stability of the gel).

The discoloration resistance of the present invention by using the aminocarboxylic acid-based metal chelating agent is also clearly shown in the Examples of the present specification (see starting on page 13). As seen in Tables 1-2 at pages 20-21, the water-absorbent resin composition of Comparative Example 3 (which does not contain an aminocarboxylic acid-based metal chelating agent) achieves very low discoloration resistance, as compared to the water-absorbent resin composition of, e.g., Inventive Example 1. Comparative Example 3 achieves a discoloration value of "C" (Table 2), wherein the criteria is described at pages 18-19 of the specification. Besides Comparative Example 3 lacking the aminocarboxylic acid-based metal chelating agent component, Applicants note that the other ingredients and amounts thereof are consistent between Inventive Example 1 and Comparative Example 3.

In other words, an absorbent article obtained by using the water-absorbent resin composition of the present invention, which contains an aminocarboxylic acid-based metal chelating agent, has excellent discoloration resistance even in a test with severe high-temperature, high-humidity environmental conditions (conditions wherein the absorbent articles are stored for 10 days in a thermohygrostat set at a temperature of $50^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and a relative humidity of $90 \pm 2\%$; see page 18, line 1 to page 19, line 3 of the present specification).

The *Graham* factor of evidence of secondary considerations lies in Applicants' favor. Versus the present invention, Hosokawa discloses an invention relating to a superabsorbent resin composition containing a metal chelating agent, but its effect is in that the stability is improved in the state of a swollen gel by allowing the superabsorbent resin to absorb urine, blood and perspiration in sanitary napkins and diapers (see Hosokawa, paragraphs [0004] and [0018]). However, Hosokawa neither discloses nor suggests the effects of discoloration resistance of a superabsorbent resin before swelling under a high-temperature, high-humidity environment as mentioned above.

Therefore, it is evident that one of ordinary skill in the art would not be motivated, or have the proper reason or rationale, in using an aminocarboxylic acid-based metal chelating agent for improving the discoloration resistance of the water-absorbent resin composition given the descriptions in Obayashi and Hosokawa. Further, one of ordinary skill in the art would not have easily arrived at water-absorbent resin composition of the present invention having discoloration resistance merely from the descriptions given in the Obayashi and Hosokawa references.

Therefore, Applicants respectfully disagree with the Examiner that the present invention would be obvious to the skilled artisan. In view of the above and unpredictability in the art, it is submitted that the present invention as claimed is suitably distinguished over the combination of references cited.

The courts since *KSR Int'l Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007), have recognized that inventors face additional barriers in relatively unpredictable technological areas as noted in *Takeda Chemical Industries, Ltd. v. Alphapharm Pty., Ltd.*; *supra* (since TSM test

can provide helpful insight if it is not applied as rigid and mandatory formula, and since, in cases involving new chemical compounds, it remains necessary to identify some reason that would have led chemist to modify known compound, in particular manner, in order to establish *prima facie* obviousness of new compound).

In light of the above presently amended claims and remarks, because there is no disclosure, teaching, suggestion, reason or rationale provided in the Obayashior or Hosokawa reference that would allow one of ordinary skill in the art to arrive at the instant invention as claimed, it follows that the same reference is incapable of rendering the instant invention obvious under the provisions of 35 USC § 103(a). Based upon the above, and applying the *Graham factors* analysis test, it is submitted that a *prima facie* case of obviousness has not been established. Further, reconsideration is respectfully requested in view of the unexpected results depicted in Applicants' specification.

Since the present invention is not obvious in light of Obayashi, the combinations of Obayashi, and Hosokawa, as well as the combinations of Obayashi, Hosokawa, Wada and Torii are improper. The secondary references, Hosokawa, Wada and Torii do not cure the deficiencies of Obayashi. Therefore, Obayashi and the above mentioned references have been improperly cited against the present invention. Based upon the above, and applying the *Graham factors* analysis test, it is respectfully submitted that a *prima facie* case of obviousness has not been established for any of the above mentioned claims. Applicants respectfully request reconsideration and subsequent withdrawal of the above rejections.

Obviousness-Type Double Patenting Doctrine

Claims 1-7 are provisionally rejected on the ground of non-statutory obviousness-type double patenting as unpatentable over claims 1, 5, and 6 of co-pending Application No. 10/552,152 in view of Obayashi. Applicants note that the Examiner recites a '772 application with the above double patenting rejection in the last paragraph of page 6 and then on page 7, line 6 of the Office Action. It appears that the Examiner meant the '152 application described above.

Applicants enclose a Terminal Disclaimer, thus obviating the present rejection. Thus, Applicants respectfully request reconsideration and withdrawal of the present rejection.

CONCLUSION

A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present application. In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters within the present application that need to be resolved, the Examiner is respectfully requested to contact Paul D. Pyla, Reg. No. 59,228, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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Attachment: Terminal Disclaimer